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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,938	03/16/2001	Gudmundur Hjartarson	10.1013	7247

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EXAMINER

LEE, ANDREW CHUNG CHEUNG

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/810,938

Applicant(s)

HJARTARSON ET AL.

Examiner

Andrew C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 13-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 9, 12, 19 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In view of the Appeal Brief filed on 12/21/2005, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:



RICKY Q. NGO
SUPERVISORY PATENT EXAMINER

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13, 14, 15, 16, 17, 18, 20, are rejected under 35

U.S.C. 102(e) as being anticipated by O'Toole et al. (US 5889856).

Regarding Claim 1, O'Toole et al. disclose the limitation of a line interface for coupling a twisted pair telephone line with a communications network (Fig. 6, element 58 Integrated line card as line interface, column 7, lines 2 – 5), comprising: a broadband analog front end circuit (element 44 A/D converter as analog front end circuit) coupling said twisted pair telephone line with said line interface; and a programmable filter (Fig. 6, element 50) coupled to receive an output signal from said broadband analog front end circuit (Fig. 6, elements 50, Digital Signal processor as programmable filter, DSP can be programmable to perform digital filtering) and configured to filter frequency bands of said output signal into a plurality of separate, variable bandwidth transmission channels (recited “DSP performs a high-pass filter, the output of the high-pass digital filtering...; DSP also performs a low-pass filter, the output of low-pass filtering” as output signal into a plurality of separate, variable bandwidth transmission channel) wherein said plurality of separate variable bandwidth transmission channels are associated with said communications network (Fig. 6, elements 30, high-speed ADSL data pathway and element 34 PCM highway as associated with said communications network, column 8, lines 8 – 11; 18 – 21), and wherein said frequency bands (Fig. 7, element 62, >4KHz, and element 66 100Hz – 4KHz frequencies as frequency bands) and said variable bandwidths are determined by programming said programmable filter (column 7, lines 62 – 65; recited DSP can be programmed to perform digital filtering; column 8, lines 49 – 50, high-pass filter; column 9, lines 1 – 2, band-pass filter).

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Regarding Claim 2, O'Toole et al. disclose the limitation of communications network comprises a data network (Fig. 6, element 30, high-speed ADSL data pathway; column 8, lines 8 – 11, 54 – 55, recited for transmission to the Internet as data network) and a voice network (Fig. 6, element 34 PCM highway, column 8, lines 18 – 21, column 9, lines 15 – 20, recited voice in Public Switched Telephone Network as voice network).

Regarding Claim 3, O'Toole et al. disclose the limitation of line interface comprising: an analog to digital converter circuit (Fig. 6, element 44 A/D converter as analog front end circuit), coupled between said broadband analog front end circuit (Fig. 6, elements 59, 54, 56, column 7, lines 31 – 36, recited these analog circuits as analog front end circuit) and said programmable filter (Fig. 6; element 50 DSP as programmable filter), configured to convert said output signal to a digital signal (column 6, lines 47 – 50, recited a sequence of digital values from A/D as converting said output signal to a digital signal), wherein said programmable filter is a digital programmable filter (Fig. 6; element 50 DSP as programmable filter, column 7, lines 62 – 65).

Regarding Claim 4, O'Toole et al. disclose the limitation of plurality of separate transmission channels (recited "DSP performs a high-pass filter, the output of the high-pass digital filtering ...; DSP also performs a low-pass filter, the output of low-pass filtering " as output signal into a plurality of separate, transmission channel) are directed to a plurality of different service providers (Fig. 6, element 30, high-speed ADSL data pathway; column 8, lines 8 – 11, 54 – 55, recited for transmission to the Internet as data network; Fig. 6, element 34 PCM highway, column 8, lines 18 – 21, column 9, lines 15 – 20, recited voice in Public Switched Telephone Network as voice network, voice network and data network as different service providers).

Regarding Claim 5, O'Toole et al. disclose the limitation of plurality of separate transmission channels are directed to a plurality of different modulation schemes (column 6, lines 51 – 58, recited high frequency components are decoded and formatted and low-frequency components are decoded and re-coded for transmission over PCM as different modulation schemes; column 10, lines 14 – 16).

Regarding Claim 6, O'Toole et al. disclose the limitation of the line interface of said programmable filter is programmed with software (column 8, lines 34 – 35, recited implemented as routines that are stored in memory as programmed with software).

Regarding Claim 7, O'Toole et al. disclose the limitation of the line interface wherein said software is downloaded to said programmable filter (column 7, lines 54 – 61, recited allow for code updates as software is downloaded).

Regarding Claim 8, O'Toole et al. disclose the limitation of the line interface wherein said plurality of separate frequency bands are determined according to a protocol including at least one of POTS, ISDN, ADSL, VDSL, SDSL, IDSL, HDSL, and HDSL2 (column 4, lines 50 – 60, recited IDSL, HDSL as at least one of).

Regarding Claim 10, O'Toole et al. disclose the limitation of the line interface of said ADSL and said POTS coexist on said twisted pair telephone line (Fig. 6, element 58 as integrated line card, element 20, Tel line, column 7, lines 17 – 29).

Regarding Claim 11, O'Toole et al. disclose the limitation of the line interface comprising: a POTS detector circuit (Fig. 6, elements 54, Ring generator, element 56 Off-hook detector) coupled to provide a POTS usage signal to said programmable filter indicating that a

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POTS bandwidth is in use (Fig. 6, element 56, off-hook detector, column 7, lines 25 – 28, the phone handset is lifted off-hook to initiate a call as POTS bandwidth is in use).

Regarding Claim 13, O'Toole et al. disclose the limitation of the line interface of claimed wherein said POTS detector circuit detects whether a telephone connected to said twisted pair telephone wire is on hook or off hook (Fig. 6, element 56, off-hook detector, column 7, lines 25 – 28, the phone handset is lifted off-hook to initiate a call as telephone wire is off-hook).

Regarding claim 14, O'Toole et al. disclose the limitation of the line interface of claimed wherein said POTS detector circuit determines if a POTS signal is communicated in said ADSL bandwidth or if said POTS signal is communicated in said POTS bandwidth (Fig. 7, element 60 decimation filter, elements 60 together with elements 62, 66 performing the frequency-splitting function to split ADSL data from POTS).

Regarding claim 15, O'Toole et al. disclose the limitation of a method of providing a plurality of services (recited Internet and PSTN as plurality of services) over a twisted pair telephone line (Fig. 6, element 20, phone line, column 7, lines 2 – 5), comprising the acts of: receiving a broadband analog signal from said twisted pair telephone line (column 7, lines 30 – 36); filtering said broadband analog signal using a programmable filter (Fig. 6, element 50, DSP as programmable filter) into a plurality of separate bands wherein said plurality of separate bands are determined by programming said filter to generate a plurality of variable bandwidth channels (recited "DSP performs a high-pass filter, the output of the high-pass digital filtering...; DSP also performs a low-pass filter, the output of low-pass filtering") as output signal into a plurality of separate, variable bandwidth transmission channel); and transmitting said plurality of separate bands to a plurality of different service providers (Fig. 6, element 30, high-speed ADSL

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data pathway; column 8, lines 8 – 11, 54 – 55, recited for transmission to the Internet as data network; Fig. 6, element 34 PCM highway, column 8, lines 18 – 21, column 9, lines 15 – 20, recited voice in Public Switched Telephone Network as voice network, voice network and data network as different service providers).

Regarding claim 16, O'Toole et al. disclose the limitation of the method of claimed wherein said separate bands are transmitted to said plurality of different service providers through a data network and a voice network (Fig. 6, element 30, high-speed ADSL data pathway; column 8, lines 8 – 11, 54 – 55, recited for transmission to the Internet as data network; Fig. 6, element 34 PCM highway, column 8, lines 18 – 21, column 9, lines 15 – 20, recited voice in Public Switched Telephone Network as voice network, voice network and data network as different service providers).

Regarding claim 17, O'Toole et al. discloses the limitation of the method of claimed wherein said programmable filter is upgraded by programming said filter with software (column 7, lines 54 – 61, recited the updateable flash ROM and volatile memory allow for code updates, fixes and enhancements).

Regarding claims 18, 20, O'Toole et al. disclose the limitation of a line interface for coupling a twisted pair telephone line with a communications network (Fig. 6, element 58 “integrated line card”, element 20 “telephone line”, element 30 “high-speed ADSL data pathway” to Internet as communication network), comprising: a broadband analog front end circuit coupling said twisted pair telephone line with said line interface (Fig. 6, elements 54, 56, 59, column 31 – 36, recited these analog circuits as analog front end circuit); and a programmable filter (Fig. 6, element 50, DSP as programmable filter) coupled to receive an output signal from

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said broadband analog front end circuit and configured to filter frequency bands of said output signal into a plurality of different transmission channels (recited “DSP performs a high-pass filter, the output of the high-pass digital filtering...; DSP also performs a low-pass filter, the output of low-pass filtering” as output signal into a plurality different transmission channels) including: a first transmission channel having a first variable frequency bandwidth (DSP performs a high-pass filter, the output of the high-pass digital filtering); and a second transmission channel having a second variable frequency bandwidth (DSP also performs a low-pass filter, the output of low-pass filtering), wherein said programmable filter can be programmed to adjust a band edge of either said first transmission channel or said second transmission channel to increase or decrease said first and second variable frequency bandwidths, respectively (Fig. 7, bandpass filter 100Hz – 4KHz, column 9, lines 1 – 4, 42 – 43, adjusted from 8KHz to 1MHZ sample rate of ADSL data; High-pass filter > 4KHz,; column 10, lines 14 – 16, recited the DSP simply re-programmed to adjust for the different ADSL or POTS encoding schemes used (that is different bandwidth)).

Allowable Subject Matter

1. Claims 9, 12, 19, 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

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2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ACL

March 23, 2006


RICKY Q. NGO
SUPERVISORY PATENT EXAMINER